# A GENERAL AND EFFICIENT METHOD FOR TRANSFORMING PREDICATED EXECUTION TO STATIC SPECULATION

## ABSTRACT

A method and apparatus involving an extensible rule-based technique for optimizing predicated code is disclosed. The technique includes if-converting an abstract internal representation and mapping the if-conversion to a machine

5   representation. The technique may include eliminating predicates from the mapped if-conversion. The eliminating of predicates may include eliminating a predicate defining instruction by interpretation; eliminating a guarding predicate of a safe instruction by speculation; eliminating a guarding predicate of an unsafe instruction by compensation; and eliminating a guarding predicate of an unsuitable

10  instruction by reverse if-conversion. The technique may include optimizing the machine representation.

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